IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TYLER DIVISION

ALCATEL USA RESOURCES INC.	§	
	§	
Plaintiff	§	
	§	
vs.	§	
	§	**CASE NO. 6:06 CV 500**
MICROSOFT CORPORATION	§	**PATENT CASE**
	§	
Defendant	§	
	§	

MEMORANDUM OPINION

This Memorandum Opinion construes the disputed terms in U.S. Patent Nos. 5,659,539 (the "'539 Patent"), 5,731,844 (the "'844 Patent"), 5,864,682 (the "'682 Patent"), 6,112,226 (the "'226 Patent"), and 6,823,390 (the "'390 Patent").

BACKGROUND

This case involves three sets of patents. The '539, '682, and '226 Patents (collectively, the "Video Playback Patents") are generally directed to methods and apparatuses that provide non-sequential access to audio-visual information stored in a digital format. The inventions parse an audio-visual work to produce a tag file. The tag file includes information about frames in the audio-visual work.

During playback, a video pump transmits the audio-visual work in a digital data stream to a client. The digital data stream may include prefix data to conform with a specific audio-visual work format. Additionally, the inventions utilize a bit budget that determines the amount of data the video pump may transmit over the communications network for a given period of time and, based upon the bit budget, the video pump either skips or transmits a frame in the audio-visual work. To respond to seek operation requests and fast and slow forward and rewind requests, the invention

inspects the tag file and, using information in the tag file, transmits a digital data stream from a new location in the audio-visual work or transmits a new digital data stream based on the presentation rate.

The '390 Patent describes a system for setting up data communication between network devices that may operate on different communication protocols. Network devices transmit data across a network via communications protocols associated with communication layers. To communicate, two devices on a network must generally employ the same protocol within each layer.

The claimed invention enables communication between devices that operate with different protocols in a given layer. The claimed system compares the devices' protocols in a testing means and determines the protocol modules needed to facilitate communication between the devices. The testing means subsequently installs the appropriate protocol modules on each device. After installation of the protocol modules, the devices can communicate directly.

Alcatel USA Resources Inc. ("Alcatel") alleges Microsoft Corporation ("Microsoft") infringes various claims of the '539, '682, '226, and '390 Patents.

The '844 Patent generally describes a method and computer system that provides a user with an efficient selection of a television program to view or record. The invention concurrently displays a television schedule with graphic and text descriptions of the television program the user selected from the displayed television schedule. The television schedule includes a schedule layout that includes program names adaptively ordered based on the frequency of the user's previous selections. Microsoft alleges Alcatel infringes various claims of the '844 Patent.[1]

[1] Microsoft also claims Alcatel infringes claims of U.S. Pat. No. 5,758,258, but the parties do not dispute any claim terms in that patent.

APPLICABLE LAW

"It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude.'" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). In claim construction, courts examine the patent's intrinsic evidence to define the patented invention's scope. *See id.*; *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). This intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1314; *C.R. Bard, Inc.*, 388 F.3d at 861. Courts give claim terms their ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the entire patent. *Phillips*, 415 F.3d at 1312–13; *Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003).

The claims themselves provide substantial guidance in determining the meaning of particular claim terms. *Phillips*, 415 F.3d at 1314. First, a term's context in the asserted claim can be very instructive. *Id*. Other asserted or unasserted claims can also aid in determining the claim's meaning because claim terms are typically used consistently throughout the patent. *Id*. Differences among the claim terms can also assist in understanding a term's meaning. *Id*. For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id*. at 1314–15.

"[C]laims 'must be read in view of the specification, of which they are a part.'" *Id*. (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). "[T]he specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.'" *Id*. (quoting *Vitronics Corp. v.*

Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). This is true because a patentee may define his own terms, give a claim term a different meaning than the term would otherwise possess, or disclaim or disavow the claim scope. *Phillips*, 415 F.3d at 1316. In these situations, the inventor's lexicography governs. *Id*. Also, the specification may resolve ambiguous claim terms "where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone." *Teleflex, Inc.*, 299 F.3d at 1325. But, "'[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.'" *Comark Commc'ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); *see also Phillips*, 415 F.3d at 1323. The prosecution history is another tool to supply the proper context for claim construction because a patent applicant may also define a term in prosecuting the patent. *Home Diagnostics, Inc., v. Lifescan, Inc.*, 381 F.3d 1352, 1356 (Fed. Cir. 2004) ("As in the case of the specification, a patent applicant may define a term in prosecuting a patent.").

Although extrinsic evidence can be useful, it is "'less significant than the intrinsic record in determining the legally operative meaning of claim language.'" *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc.*, 388 F.3d at 862). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id*. at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert's conclusory, unsupported assertions as to a term's definition is

entirely unhelpful to a court. *Id*. Generally, extrinsic evidence is "less reliable than the patent and its prosecution history in determining how to read claim terms." *Id*.

The patents in suit also contain means-plus-function limitations that require construction. Where a claim limitation is expressed in "means plus function" language and does not recite definite structure in support of its function, the limitation is subject to 35 U.S.C. § 112, ¶ 6. *Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1424 (Fed. Cir. 1997). In relevant part, 35 U.S.C. § 112, ¶ 6 mandates that "such a claim limitation 'be construed to cover the corresponding structure . . . described in the specification and equivalents thereof.'" *Id*. (citing 35 U.S.C. § 112, ¶ 6). Accordingly, when faced with means-plus-function limitations, courts "must turn to the written description of the patent to find the structure that corresponds to the means recited in the [limitations]." *Id*.

Construing a means-plus-function limitation involves multiple inquiries. "The first step in construing [a means-plus-function] limitation is a determination of the function of the means-plus-function limitation." *Medtronic, Inc. v. Advanced Cardiovascular Sys., Inc.*, 248 F.3d 1303, 1311 (Fed. Cir. 2001). Once a court has determined the limitation's function, "the next step is to determine the corresponding structure disclosed in the specification and equivalents thereof." *Id*. A "structure disclosed in the specification is 'corresponding' structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim." *Id*. Moreover, the focus of the "corresponding structure" inquiry is not merely whether a structure is capable of performing the recited function, but rather whether the corresponding structure is "clearly linked or associated with the [recited] function." *Id*.

CLAIM TERMS

Video Playback Patents

A Channel Having a Predetermined Data Transfer Rate

Claims 25 and 29 of the '539 Patent and claim 22 of the '682 Patent contain the term "a channel having a predetermined data transfer rate."[2] Alcatel contends the term does not require construction. Microsoft argues the term means "a circuit-style communications network." The parties dispute whether the "predetermined data transfer rate" term limits the claims' scope to circuit-style communications networks.

The claim language does not limit the channel to a particular type of communications network but only requires a channel with a predetermined data transfer rate. The claims cover "method[s] for selecting frames for display during a performance at a specified presentation rate of a work represented in a digital video file, wherein the performance is produced by decoding a data stream generated from the digital video file over a channel having a predetermined data transfer rate." '539 Patent, col. 30:63–col. 31:19, col. 32:1–25; '682 Patent, col. 30:10–31. The claimed methods require the step of "determining a bit budget based on . . . said predetermined data transfer rate." '539 Patent, col. 30:63–col. 31:19, col. 32:1–25; '682 Patent, col. 30:10–31. Based on a comparison of the bit budget with the frame data size, the methods skip or select for display the frame associated with the compared frame data. '539 Patent, col. 30:63–col. 31:19, col. 32:1–25; '682 Patent, col. 30:10–31. Thus, the claims indicate that "a channel having a predetermined data transfer rate" is the communications channel that transmits the digital video file.

[2] Alcatel and Microsoft also disputed the construction of the term "communications channel," which appears in claim 2 of the '226 Patent. However, at the hearing Microsoft agreed that the "communications channel" term was not limited to a circuit-style network.

The specifications[3] disclose two communications networks, a control network and a high-bandwidth network. '539 Patent, Fig. 1B, col. 5:47–col. 6:45. The specifications state the control network "may be any network that allows communications between two or more devices." *Id.* at col. 5:50–52. Examples of these networks are high-bandwidth networks, X.25 circuits, and electronic industry association (EIA) (RS-232) serial lines. *Id.* at col. 5:52–54. The invention permits client computers to transmit requests over the control network. *Id.* at col. 6:34–38.

The high-bandwidth network "may be any type of circuit-style network link capable of transferring large amount of data." *Id.* at col. 6:18–22. Examples of high-bandwidth networks are asynchronous transfer mode (ATM) circuits and T1 or E1 lines. *Id.* at col. 6:22-25. High-bandwidth networks may also ultilize fiber optic cables, twisted pair conductors, coaxial cable, and wireless communications systems. *Id.* at col. 6:25–29. The specifications state a single network could implement the functions of the control and high-bandwidth networks. *Id.* at col. 6:11–14.

Microsoft's construction improperly limits the term "a channel having a predetermined data transfer rate." The claims require a channel with a predetermined data rate and do not limit the channel to a circuit-style communications network. While the specifications disclose circuit-style high-bandwidth networks, which assumingly have predetermined data transfer rates, the specifications do not limit communications channels with predetermined data transfer rates to only to circuit-style networks. *Id.* at col. 6:18–22. Further, the specifications state a single network may implement the high-bandwidth and control networks, and the specifications allow any communications network to serve as a control network. *Id.* at col. 5:50–52. Additionally, the specifications do not limit the single-network implementation to a circuit-style network. In total, the

[3] The '539 and '682 Patents' specifications contain nearly identical disclosures. The Court will cite to the '539 Patent, though the '682 Patent's specification contains the same propositions.

specifications do not limit "a channel having a predetermined data transfer rate" to a circuit-style network, and it would be improper to so limit the claims. *See Phillips*, 415 F.3d at 1323–24.

A lay jury will understand the term "a channel having a predetermined data transfer rate." The Court has resolved the parties' claim-scope dispute and will not further define the term. *See O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008).

Bit Budget

Claims 25 and 29 of the '539 Patent and claim 22 of the '682 Patent contain the term "bit budget." Alcatel argues "bit budget" means "amount of data that can be transferred over the channel for performance of the work during a period of time." Microsoft argues "bit budget" means the following:

> Amount of bits which is calculated to be the product of a time window multiplied by the data transfer rate of the circuit style network; where the time window is calculated by subtracting the first time from the second time and dividing that result by the presentation rate where the presentation rate is expressed as a multiple of the normal playback rate.

The parties dispute[4] whether "bit budget" must include the formula disclosed in the specifications.

The claims do not delineate a specific equation to determine the "bit budget" but provide the parameters the "bit budget" is based on. The claims cover methods that comprise, in part, the step of "determining a bit budget based on" three parameters: the specified presentation rate of a work represented in a digital video file; the time difference between a time associated with a first frame and time associated with a second frame; and the predetermined data transfer rate of the channel. '539 Patent, col. 30:63–col. 31:19, col. 32:1–25; '682 Patent, col. 30:10–31. Based on a comparison

[4] Microsoft's construction also limits the communications channel that relates to the "bit budget" to a "circuit-style network." A "channel having a predetermined data transfer rate" is not limited to a "circuit-style network," and the Court will not further address this dispute.

of the "bit budget" with the frame data associated with the second frame, the method skips or selects for display the second frame. '539 Patent, col. 30:63–col. 31:19, col. 32:1–25; '682 Patent, col. 30:10–31.

The specifications teach one formula to calculate a "bit budget" based on the three parameters listed in the claims. Specifically, the specifications state a server "determines the current 'bit budget' by multiplying the time window by the data transfer rate of the channel through which the [video] data stream is being sent to the client [DR]." '539 Patent, col. 17:45–50. The "time window" is the difference in time between the time values of the previously selected frame (T1) and the frame at issue (T2), where this difference is divided by current presentation rate (PR). *Id.* at col. 17:36–39. The current presentation rate, which is dimensionless, refers to the rate at which the audio-visual work is presented to a viewer and is expressed relative to the normal presentation rate. *Id.* at col. 16:64–65, col. 17:9–19, col. 17:36–44.[5]

Microsoft's construction improperly limits "bit budget" to the equation disclosed in the specification. In the context of the '539 and '682 Patents, the "bit budget" is the amount of data that can be transferred across the channel over a period of time. *See id.* at col. 30:63–col. 31:19, col. 32:1–25 (claiming method for selecting frames for display during a performance of a work that, in part, compares the "bit budget" to a frame data size for a specific frame and selects for display the frame if the bit budget exceeds the frame data size; if the frame data size exceeds the bit budget, the method skips the frame); '682 Patent, col. 30:10–31 (same); '539 Patent, col. 17:52–63 (describing comparison of frame data size with "bit budget" determined for a certain period of time and the

[5] The specifications disclose the following "bit budget" formula: Bit Budget = $\left(\frac{T2 - T1}{PR}\right) DR$. For example, if the difference between T1 and T2 is one second, the presentation rate is 10X, and the data transfer rate is two megabits per second, the equation yields a "bit budget" of 200K bits or 25K bytes. '682 Patent, col. 17:33–45.

selection of frames to be sent based on the comparison, and noting "[i]f a particular frame is not sent, then it is more likely that a future frame will be sent, because of the unused timespace (and thus bits in the bit budget) of the unused frames"). While the specifications disclose a specific "bit budget" equation, the claims cover "determining a bit budget" based on three factors, which is broader than the disclosed equation and covers different mathematical and logical relationships between the factors so long as the "bit budget" is based upon the factors and can be compared to the frame data size. Thus, the Court adopts Alcatel's construction, and "bit budget" means "amount of data that can be transferred over the channel for performance of the work during a period of time."

Tag Data

Claim 19 of the '539 Patent, claim 18 of the '682 Patent, and claims 8 and 14 in the '226 Patent contain the term "tag data." Alcatel contends "tag data" means "information about frame data including a location, a corresponding time and a frame type." Microsoft contends "tag data" means "information about each frame data including a location, a corresponding time and a frame type."[6]

The claims explain the relationships between "tag data," frame data, and frames within a sequence. Claim 19 of the '539 Patent, for example, claims a "method of preprocessing an original digital data stream that represents an audio-visual work to create tag information, the audio-visual work including a sequence of frames, the original digital data stream including a sequence of frame data, each frame data corresponding to a frame in said sequence of frames."[7] *Id.* at col. 30:1–26. For each frame in the sequence of frames, the method claims the following steps: "determining

[6] The parties' constructions raise the dispute as to whether the "tag data" for a single frame requires information about the frame data that corresponds to each frame within the sequence of frames. However, at the *Markman* hearing, Microsoft conceded that "tag data" for a single frame only requires information about the associated frame data for the frame. At the hearing, the parties disputed whether each frame within a sequence of frames must have a unique associative frame data. The Court will address each dispute.

[7] The asserted claims in the '539, '682, and '226 Patent, for the purposes of the "tag data" limitation, contain nearly identical claim limitations. For simplicity, the Court will cite claim 19 of the '539 Patent.

boundaries within said original digital data stream for the frame data corresponding to said frame"; "generating tag data that includes boundary data that indicates said boundaries of said frame data"; and "storing said tag data separate from said original digital data stream." *Id.*

The claims specify a sequence of frames and a separate sequence of frame data, where each frame data in the sequence of frame data corresponds to a frame in the sequence of frames. Thus, the claims cover the situation where a single frame data corresponds to multiple frames within a sequence, as each sequence could contain a different number of elements and the claimed method performs the "determining," "generating," and "storing" steps on a frame-by-frame basis for each frame within the sequence of frames. *Id.* However, the claims require at least one frame data to correspond with each frame within the sequence of frames. *Id.* (claiming "method of preprocessing an original digital data stream . . . to create tag information, . . . [where] each frame data correspond[s] to a frame in said sequence of frames"; the method comprises the steps of "for each frame in said sequence of frames, performing the steps of determining boundaries . . . for the frame data corresponding to said frame; [and] generating tag data . . . that indicates boundaries of said frame data"). In total, the claims require at least one frame data in the sequence of frame data to correspond to each frame in the sequence of frames but do not require a single frame data within the sequence of frame data to correspond to only one frame.

Additionally, the Video Playback Patents do not require each "tag data" associated with a frame in the sequence of frames to contain information about each frame data within the frame data sequence. The method generates "tag data" for each frame within the sequence of frames. *Id.* This generated "tag data" includes boundary data that indicates determined boundaries of the frame data that corresponds to a frame within the sequence of frames. *Id.* Further, the specifications bolster the plain claim language, as the specifications disclose embodiments where each "tag data" is

associated with a single frame data for a single frame within a sequence of frames. *Id.* at Figs. 2B, 2C (depicting "tag file entry" for single frame from an MPEG file); '682 Patent, Figs. 2B, 2C (same); '226 Patent, Figs. 2B, 2C (same); '539 Patent, col. 9:7–col. 11:52 (describing "tag information" as including information about a single frame within the sequence of frames); '682 Patent, col. 9:5–col. 11:49 (same); '226 Patent, col. 8:5–col. 10:51 (same).

In total, the Video Playback Patents do not require a frame data in the sequence of frame data to correspond to a single frame and do not require the "tag data" to contain information about each frame data in the sequence of frame data. Thus, "tag data" means "information about the frame data including a location, a corresponding time and a frame type."

Determining Boundaries Within Said Original Digital Data Stream for the Frame Data Corresponding to Said Frame / Boundary Data that Indicates Said Boundaries of Said Frame Data

Claim 19 of the '539 Patent and claim 18 of the '682 Patent contain the above terms. The parties dispute[8] whether the claimed "boundaries" and "boundary data" are limited to the start and end position of the frame data for a corresponding frame.

The claimed "boundaries" refer to the boundaries of the frame data. '539 Patent, col. 30:1–26 (claiming method steps of "determining boundaries within said original digital data stream for the frame data corresponding to said frame" and "generating tag data that includes boundary data that indicates said boundaries of said frame data").[9] The claims do not further define the boundaries for frame data that correspond to a particular frame.

Figure 2A of the specifications depicts the program elementary system (PES), transport, and

[8] Alcatel contends "determining boundaries within said original digital data stream from the frame data corresponding to said frame" does not require construction. Microsoft argues the term means "determining the start position and end position of the frame data of the original data stream that corresponds to that frame of the audio visual work." Alcatel argues "boundary data that indicates said boundaries of said frame data" does not require construction. Microsoft contends boundary data includes "the start position and end position of said frame data."

[9] Claim 18 of the '682 Patent contains identical limitations. '682 Patent, col. 29:37–51.

video layers of an MPEG file. *Id.* at Fig. 2A, col. 8:6–16.[10] Each layer consists of a series of packets. The PES layer consists of a series of PES packets. *Id.* at col. 8:11–16. The transport layer consists of transport packets. *Id.* at col. 8:21–22. Each transport packet exclusively contains one type of data, which may be video, audio, control, or timing data. *Id.* at col. 8:11–16, col. 8:21–27. Each packet from the video layer, known as a picture packet, contains one frame of video. *Id.* at col. 8:11–16. A single transport packet may carry video data for more than one frame, as picture packet boundaries and transport packet boundaries do not always coincide. *Id.* at Fig. 2A, col. 8:45–47.

Each packet contains boundaries that separates the packet from other packets in the layer. *See id.* at Fig. 2A; *id.* at col. 8:20–21 ("PES packet boundaries coincide with valid transport packet boundaries."); *id.* at col. 8:54–58 ("[P]oints 280 and 282 represent the boundaries for the picture packet for frame 'F.' . . . The boundaries for the picture packet for frame 'G' are indicated by bracket 276."). The frame data for a frame in the video layer is the video data in the transport layer located between the boundaries of the picture packet. *Id.* at col. 8:48–53. As the boundaries refer to packet boundaries in the various layers, the frame data boundaries are the boundaries of packets that constitute the frame data for a corresponding frame.

The boundaries of the frame data associated with a frame are the picture packet boundaries and the boundaries of the transport packets that contain video data where the boundaries of the transport packets are located between the picture packet boundaries. Thus, the claimed "boundaries" and the "boundary data that indicates said boundaries of said frame data" are not limited to the start and end positions of the picture packet in the video layer. The Court has resolved the parties' claim-scope dispute and will not further define the terms. *See O2 Micro*, 521 F.3d at 1362.

[10] The '682 Patent contains the same relevant disclosure. The Court will cite to the '539 Patent specification.

Locations of Frames Contained in Said Content Data

Claim 1 of the '226 Patent contains the term "locations of frames contained in said content data." Alcatel contends "locations of frames contained in said content data" does not require construction. Microsoft argues the term means "at least one location for each frame contained in said content data." The parties dispute whether the claim requires generation of control data that indicates the locations of each frame contained in the content data.

Claim 1 claims a digital video delivery system that comprises: "an encoder configured to receive visual information"; "said encoder being configured to generate content data that represents the visual information in a digital video format"; and "said encoder being configured to generate control data in parallel with said content data, said control data indicating locations of frames contained in said content data." '226 Patent, col. 19:66–col. 20:7.

Microsoft's construction improperly limits the scope of claim 1. The claim language does not require the control data to indicate the location of each frame contained in the content data. The specification states "control information" includes specific information about how the encoder constructed the video stream, which includes tag data that the stream server uses to provide non-sequential access to the video stream. *Id.* at col. 5:31–36. Specifically, "control information may include information about the type, length, and boundaries of the various frames encoded in the video stream as well as header information that specifies the compression ratio, the bit rate, and other types of information that video server requires to determine how to process the video stream." *Id.* at col. 5:37–41. The specification, when it describes tag files, states that the tag file "contains an entry for each frame within the MPEG file." *Id.* at col. 8:36–38. The specification also depicts a tag file that contains entries for each frame within an MPEG file. *Id.* at Fig. 2B, 2C; *id.* at col. 9:62–64. However, these disclosed embodiments are examples and do not limit claim 1, which does not

contain the term "each." *See Electro Med. Sys., S.A. v. Cooper Life Scis., Inc.*, 34 F.3d 1048, 1054 (Fed. Cir. 1994).

Claim 1 does not require generation of control data that indicates the locations of each frame contained in the content data. The Court has resolved the parties' claim-scope dispute and will not further define the term. *See O2 Micro*, 521 F.3d at 1362.

Locations of Said Video Frame Data Within Said Digital Data Stream

Claims 8 and 14 of the '226 Patent contain the term "locations of said video frame data within said digital data stream." Alcatel argues the term does not require construction. Microsoft argues the term means "more than one location for each video frame data within the digital data stream." The parties dispute[11] whether each video frame data has more than one location within the digital data stream.

The claims cover a method or computer-readable medium wherein a "digital data stream includes a sequence of video frame data, each video frame data in said sequence of video frame data corresponding to a video frame." '226 Patent, col. 20:54–col. 21:3, col. 21:36–col. 22:15. The claims further require "causing said encoder to generate tag data that indicates locations of said video frame data within the digital data stream." *Id.*

Microsoft's construction improperly limits the claim. The claim requires the generated "tag data [] [to] indicate[] locations of said video frame data [in the sequence of video frame data] within said digital data stream." *Id.* Thus, the "locations" refer to the locations of the one or more frame data within the sequence and does not require each video frame data to have multiple locations within the digital data stream. The Court has resolved the parties' claim-scope dispute and will not

[11] The Court has already resolved the dispute related to "tag data" inherent in the parties' constructions of this claim term and will not further address the dispute.

further define the term "locations of said video frame data within said digital data stream." *See O2 Micro*, 521 F.3d at 1362.

Storing Said Tag Data Separate From Said Original Digital Data Stream

Claim 19 of the '539 Patent and claim 18 of the '682 Patent require the method step of "storing said tag data separate from said original digital data stream." Alcatel argues the term does not require construction. Microsoft contends the term means "storing the tag data in a file separate from the file of the original data stream." The parties dispute whether the method step requires storage of the "tag data" and "original digital data stream" in separate files.

Microsoft's construction overly limits the term "storing said tag data separate from said original digital data stream." The claims require the step of separately storing data and do not include the term "file" or describe an operating system. '539 Patent, col. 30:1–26; '682 Patent, col. 29:37–51. Other claims in the '539 and '682 Patents contain the term "file," which indicates the tag data and the original digital data stream need not be organized in specific files. *E.g.*, '539 Patent, col. 31:40–67 (employing term "digital video file" and "wherein the performance is produced by decoding a data stream generated from the digital video file"); '682 Patent, col. 30:10–31 (same); *see also Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004); *Phillips*, 415 F.3d 1314.

The specifications describe an MPEG file and a tag file. *E.g.*, '539 Patent, Figs. 1B, 2A, 2B, 2C, 3B, 5, 7; *id.* at col.7:24–col. 9:3. The tag file generator generates a tag file from an MPEG file. *Id.* at col. 7:26–28. The specifications, however, disclose an MPEG file and its associative tag file as part of preferred embodiments and do not impose file-system limitations into the claims. *See Electro Med. Sys.*, 34 F.3d at 1054. The Court has resolved the parties' claim-scope dispute and will not further define the term "storing said tag data separate from said original digital data stream." *See*

O2 Micro, 521 F.3d at 1362.

Prefix Data

Claim 39 of the '539 Patent contains the term "prefix data." Alcatel argues "prefix data" does not require construction. Microsoft contends "prefix data" means "appropriate headers for each of the layers of the digital representation." The parties dispute whether "prefix data" is limited to appropriate headers for each layer of the digital data stream.

Claim 39 claims "a method for performing a seek operation during a performance of an audio-visual work" and comprises the steps of "generating prefix data that indicates a state of one or more state machines" and "transmitting said prefix data after ceasing to transmit data from [a first position in a digital representation of an audio-visual work] and prior to transmitting data from [a second position in a digital representation of an audio-visual work]." '539 Patent, col. 34:47–63.

Consistent with claim 39, the specification, when it describes seek operations, indicates the video pump transmits "prefix data" after it completes transmission of data from a first position in a digital video file but before the video pump transmits data from a second position in the digital video file. *Id.* at Fig. 3B; *id.* at col. 13:5–19. The specification also states "prefix data is data that prepares the client to receive digital audio-visual data from the specified location in the digital audio-video file." *Id.* at col. 6:62–65; *see also id.* at col. 12:27–30 ("As stated above, prefix data is data that must be inserted into the MPEG data stream prior to a transition to ensure that the MPEG data stream remains MPEG compliant."); *id.* at col. 13:45–50 ("[P]refix data must be constructed and sent to smoothly transition between the current location in the MPEG file and a new location. The prefix data contains packing information which begins packages for the data at the new location."). In the preferred embodiment, "prefix data" includes header information as one of many possible entries. *Id.* at col. 13:53–col. 14:15 (depicting "prefix data" that includes "SYSTEM & PACK HEADER

DATA," "TRANSPORT PACKET HEADER DATA," "POSSIBLE EXTRA PADDING AND SECOND TRANSPORT PACKET HEADER," and "MPEG VIDEO HEADER" entries in addition to other entries that do not contain a "HEADER" label); *id.* at col. 7:8–13 ("The prefix data includes a packet header which, when followed by the MPEG data located at the specified position, creates an MPEG compliant transition packet.").

Microsoft's construction improperly limits the "prefix data" limitation. Nothing in the intrinsic record limits "prefix data" to appropriate headers or requires "prefix data" for each layer of the digital representation. In the context of the surrounding claim language, which describes "prefix data," a lay jury will understand the term "prefix data" and further construction is unnecessary. The Court has resolved the parties' claim-scope dispute and will not further define "prefix data." *See O2 Micro*, 521 F.3d at 1362.

Encoder Being Configured to Generate Control Data in Parallel With Said Content Data

Claim 1 of the '226 Patent contains the term "encoder being configured to generate control data in parallel with said content data." Alcatel contends the term does not require construction. Microsoft argues the term means "an encoder that generates control data simultaneously with generating content data." The parties dispute whether the claimed encoder is required to generate the control and content data simultaneously.

Microsoft's construction overly limits the claim term. Claim 1 claims a digital video delivery system that comprises: "an encoder configured to receive visual information,"; "said encoder being configured to generate content data that represents the visual information in a digital video format"; and "said encoder being configured to generate control data in parallel with said content data, said control data indicating locations of frames contained in said content data." '226 Patent, col. 19:64–col. 20:14.

The specification indicates the encoder's ability to generate data in parallel refers to the encoder's circuit configuration and does not require the encoder to simultaneously generate control and content data. The specification states:

> [The] [e]ncoder generates content data and control data in parallel. However, the control data associated with a particular portion of content is not necessarily generated by [the] encoder at the same time as the particular portion of content. For example, [the] encoder may actually determine how it is going to line up content frames before the encoder actually lines up the frames. Under these circumstances, the control data that indicates how the frames are lined up may be transmitted by [the] encoder before the content data that contains the frames.

Id. at col. 6:28–37 (internal references to Fig. 1 omitted).

Thus, the encoder in claim 1 need not simultaneously generate control and content data. The Court has resolved the parties' claim-scope dispute and will not further define the term "encoder being configured in generate control data in parallel with said content data." *See O2 Micro*, 521 F.3d at 1362.

The Location of Data that Would be Reflected in Said Second Digital Data Stream After Said Amount of Time had Elapsed During a Normal Speed, Sequential Playback Operation

Claim 20 of the '682 Patent contains the term "the location of data that would be reflected in said second digital data stream after said amount of time had elapsed during a normal speed, sequential playback operation." Alcatel contends the term means "the location of data that would include information from said second digital data stream after said amount of time had elapsed during a normal speed, sequential playback operation." Microsoft argues the term means "the skip control signal specifies the second location as an amount of time forward in the digital data stream from the first location." The parties dispute whether the "second location" recited in claim 20, which depends on an amount of time that would elapse during normal-speed playback, is in reference to the "first location" limitation in claim 19.

The Court preliminary construed this term to mean "the skip control signal specifies the

second location as an amount of time forward in the digital data stream from the first location." After further consideration, for the reasons explained below, the Court construes the term to mean "the location of data that would include information from said second digital data stream after said amount of time had elapsed during a normal speed, sequential playback operation."

Claim 19, which claim 20 depends upon, claims a method that comprises, in part, the steps of "generating a second digital data stream based on said original digital data stream," and "when said second digital data stream reflects data at a first location in said original digital data stream" the method performs three steps. '682 Patent, col. 29:52–65. These steps include: "receiving a skip control signal that indicates a second location in said original digital data stream"; "reading [the generated and stored] tag data to determine a boundary of a frame that corresponds to said second location"; and "causing said second digital data stream to reflect data beginning at the boundary of the frame that corresponds to said second location." *Id.* Claim 20 claims the above method "wherein said skip control signal indicates said second location by specifying an amount of time, said second location being the location of data that would be reflected in said second digital data stream after said amount of time had elapsed during a normal speed, sequential playback operation." *Id.* at col. 29:66–col. 30:9.

The "second location" requires a reference point in the second digital data stream from which normal playback would begin. However, the claims do not connect the "second location" in claim 20 to the "first location" in claim 19. Claim 20 defines the "second location" based on an amount of time indicated by the skip control signal, specifically the location of data that would be reflected in the second digital data stream after normal playback for the amount of time indicated in the skip control signal had elapsed. *Id.* While claim 20 would cover a "second location" based on an amount of time relative to the "first location," the claim also covers the situation where the "second location"

is based on an amount of time relative to other locations in the second digital data stream, such as locations expressed as an amount of time relative to the beginning of the second digital data stream.

The specification discloses a specific embodiment and states a client transmits a seek operation request to a stream server when the client wishes to perform a seek operation. *Id.* at col. 11:54–56. The specification expresses the location of the digital data stream sequence as a result of the seek operation request as an amount of time relative to the location of the digital data stream when the client transmits a seek operation. *Id.* at col. 11:56–58 ("The seek operation may specify, for example, to jump ahead in the MPEG sequence to a position five minutes ahead of the current playing position.").

Such an example, however, does not act to limit the plain language in claim 20. *See Electro Med. Sys.*, 34 F.3d at 1054. Thus, "the location of data that would be reflected in said second digital data stream after said amount of time had elapsed during a normal speed, sequence playback operation" means "the location of data that would include information from said second digital data stream after said amount of time had elapsed during a normal speed, sequential playback operation."

'390 Patent

Recognition Means for Detection of an Actual Protocol Property of the Communications Protocol

Claims 8 and 12 contain the term "recognition means for detection of an actual property protocol of the communications protocol." The parties dispute whether the term is a means-plus-function term governed by 35 U.S.C. § 112 ¶ 6.

The use of a the term "means" in a claim limitation raises a rebuttable presumption that the claim limitation is a means-plus-function limitation governed by 35 U.S.C. § 112 ¶ 6. *Kemco Sales, Inc. v. Control Papers Co.*, 208 F.3d 1352, 1361 (Fed. Cir. 2000). If the claim limitation recites sufficient structure to perform the recited function, the presumption has been overcome and 35

U.S.C. § 112 ¶ 6 does not govern the claim limitation. *Id.* Similarly, 35 U.S.C. § 112 ¶ 6 does not govern a claim limitation if the limitation does not sufficiently connect a "means" to a recited function. *York Prods., Inc. v. Cent. Tractor Farm & Family Ctr.*, 99 F.3d 1568, 1574 (Fed. Cir. 1996); *Wenger Mfg., Inc. v. Coating Sys., Inc.*, 239 F.3d 1225, 1236 (Fed. Cir. 2001). Courts evaluate whether a claim limitation falls within the ambit of 35 U.S.C. § 112 ¶ 6 from the perspective of one of ordinary skill in the art. *Apex Inc. v. Raritan Computer, Inc.*, 324 F.3d 1364, 1374 (Fed. Cir. 2003); *see also Phillips*, 415 F.3d at 1312–13.

The claims contain the term "means" and 35 U.S.C. § 112 ¶ 6 presumptively governs the construction of the "recognition means" limitation. *Kemco Sales*, 208 F.3d at 1361. Alcatel argues that the claims' disclosure of "program code" within the "set-up module" provides sufficient logical structure to perform the "detection of an actual property protocol of the communications protocol" function and overcomes the presumption.

Claim 8 claims a "set-up module" that comprises, in part, "recognition means for detection of an actual protocol property of the communications protocol." '390 Patent, col. 10:48–col. 11:8. Similarly, claim 12 claims "computer-readable memory medium" comprising, in part, a "set-up module" that comprises, in part, "recognition means for detection of an actual protocol property of the communications channel." *Id.* at col. 12:32–col. 13:14. The "set-up modules" contain "program code able to be executed by a control means" *Id.* at col. 10:48–col. 11:8, col. 12:32–col. 13:14. The specification indicates examples of "control means" are "processors with which a program code may be executed." *Id.* at col. 5:3–7.

Alcatel relies on *Massachusetts Institute of Technology v. Abacus Software*, where the court held the defendants did not overcome the presumption that the term "aesthetic correction circuitry for interactively introducing aesthetically desired alterations into said appearance signals to produce

modified appearance signals" is not a means-plus-function limitation. 462 F.3d 1344, 1355–56 (Fed. Cir. 2006). The court reasoned the term "circuit" coupled with a description of the circuit's operation connotes structure and is not a means-plus-function limitation. *Id.*

The court, when it addressed Judge Michel's dissent, focused on the strength of the presumption that 35 U.S.C. § 112 ¶ 6 does not apply to claim limitations that do not contain the term "means." Courts seldom hold that claim limitations that do not employ the term "means" are means-plus-function limitations, and courts find the presumption overcome only in unusual circumstances. *Id.* (quoting *Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1362 (Fed. Cir. 2004)). Thus, the court stated "the dissent erroneously suggests that claims cannot avoid means-plus-function treatment unless the claim term denotes a specific structure." *MIT*, 462 F.3d at 1356. Contrary to the dissent, the court noted, "'[i]n considering whether a claim term recites sufficient structure to avoid application of section 112 ¶ 6, we have not required the claim term to denote a specific structure.'" *Id.* (quoting *Lighting World*, 382 F.3d at 1359 (Fed. Cir. 2004)). In contrast, "'we have held that it is sufficient if the claim term is used in common parlance or by persons of skill in the pertinent art to designate structure, even if the term covers a broad class of structures and even if the term identifies structures by their function.'" *MIT*, 462 F.3d at 1356 (quoting *Lighting World*, 382 F.3d at 1359–60).

In this case, the '390 Patent does not claim "program code for detection of an actual protocol property of the communications channel," and the inquiry is not whether Microsoft can rebut the presumption that "program code," which is structural, coupled with a description of the code's function sufficiently denotes structure such that the term "is used in common parlance or by persons of skill in the pertinent art to designate structure." *See Lighting World*, 382 F.3d at 1359–60. The relevant claim limitation requires a "set-up module" that comprises "recognition means for detection

of an actual protocol property of the communications channel." '390 Patent, col. 10:48–col. 11:8, col. 12:32–col. 13:14. The "set-up module" also contains "program code." *Id.* Thus, the relevant inquiry is whether a skilled artisan would understand a "recognition means" to connote sufficient structure to perform the "detection of an actual protocol property of the communications channel" function where the "recognition means" is located within a "set-up module" that also includes "program code" capable of execution on a computer. *Kemco Sales*, 208 F.3d at 1361.

There is no evidence a skilled artisan would understand a "recognition means" to connote structure that performs the "detection of an actual protocol property of the communications channel" function. That the "recognition means" resides in a "set-up module" and that the claims imply the "recognition means" resides in "program code" does not rebut the presumption that 35 U.S.C. § 112 ¶ 6 governs the construction of the "recognition means" limitation.[12]

Microsoft contends claims 8 and 12 are indefinite, as the specification does not disclose any corresponding structure to perform the "detection of an actual property protocol of the communications protocol" function. Alcatel argues the disclosed program module "PMPA" performs the recited function.

A claim is invalid under 35 U.S.C. § 112 ¶ 2 if it fails to particularly point out and distinctly

[12] A "set-up module" and "program code" are not sufficiently definite structures to perform the "detection of an actual protocol property of the communications channel" function. In a means-plus-function claim limitation that recites a computer-implemented function, the structure that performs the recited function is limited to a computer programmed to implement a disclosed algorithm. *See Harris Corp. v. Ericsson Inc.*, 417 F.3d 1241, 1253 (Fed. Cir. 2005). "Program code" and a "set-up module" are not sufficient algorithmic structures, and a computer that executes "program code" or implements a "set-up module" is not sufficient structure to perform the "detection of an actual protocol property of the communications channel" function. *See Finisar Corp. v. DirectTV Group, Inc.*, 523 F.3d 1323, 1340–41 (Fed. Cir. 2008) (holding disclosure of "software" was not sufficient algorithmic structure to perform computer-implemented "generating" and "embedding" functions of "database editing means"). Thus, as "program code" and a "set-up module" are not sufficiently definite structures to perform the claimed function, the claims' recitation of "program code" and a "set-up module" does not rebut the presumption that 35 U.S.C. § 112 ¶ 6 governs the construction of the "recognition means for detection of an actual protocol property of the communications channel" limitation. *See Kemco Sales*, 208 F.3d at 1361 ("Use of the term 'means' in a claim limitation creates a presumption that section 112, paragraph 6 has been invoked, but that presumption may be rebutted if the properly construed claim limitation itself recites sufficiently definite structure to perform the claimed function.").

claim the subject matter that the applicant regards as the invention. The party seeking to invalidate a claim under 35 U.S.C. § 112 ¶ 2 as indefinite must show by clear and convincing evidence that one skilled in the art would not understand the scope of the claim when read in light of the specification. *Intellectual Prop. Dev., Inc. v. UA-Columbia Cablevision of Westchester, Inc.*, 336 F.3d 1308, 1319 (Fed. Cir. 2003).

A means-plus-function limitation is indefinite if the specification does not disclose sufficient structure such that one skilled in the art would understand the structure as adequate to perform the recited function. *Id.* To qualify as sufficient structure, the disclosed structure must correspond to the recited function. *Default Proof Credit Card Sys., Inc. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1298 (Fed. Cir. 2005).

A structure disclosed in the specification qualifies as "corresponding" structure only if the specification or prosecution history clearly link or associate that structure to the recited function. *Id.* The corresponding structure does not need to include all necessary elements to enable the claimed invention, but the structure must include all structure that actually performs the recited function. *Id.* Courts consider the entire specification to determine the structure that is capable to perform the recited function. *Id.*

The corresponding structure for a means-plus-function claim limitation with a computer-implemented function is limited to the algorithm disclosed in the specification. *Harris Corp. v. Ericsson Inc.*, 417 F.3d 1241, 1253 (Fed. Cir. 2005); *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999) ("In a means-plus-function claim in which the disclosed structure is a computer, or microprocessor, programmed to carry out an algorithm, the disclosed structure is not the general purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm."). Disclosure of a general purpose computer without a corresponding

algorithm renders the means-plus-function claim limitation indefinite and the claim invalid. *Aristocrat Techs. Austl. Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008).

A computer-implemented means-plus-function claim limitation is definite so long as the disclosure defines sufficient algorithmic structure to render the bounds of the claim understandable to one of ordinary skill in the art. *AllVoice Computing PLC v. Nuance Comm'cns, Inc.*, 504 F.3d 1236, 1245 (Fed. Cir. 2007); *see also Finisar Corp. v. DirectTV Group, Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008). Courts allow a patentee to express an algorithm in any understandable terms, which includes mathematical formulas, prose, flow charts, or any other manner that provides sufficient structure. *Id.* However, if the specification merely states a computer or microprocessor performs the claimed function, the specification does not disclose adequate structure and the claim limitation is indefinite. *Id.* at 1340–41 (holding "database editing means" limitation indefinite, as specification's disclosure of "software" was not sufficient algorithmic structure to perform computer-implemented "generating" and "embedding" functions of "database editing means"); *Aristocrat Techs.*, 521 F.3d at 1338 (holding "control means" limitation indefinite where specification did not disclose an algorithm but merely stated one of ordinary skill in the art could program a computer with "appropriate programming" to perform "control means" functions); *see also Biomedino LLC v. Waters Techs., Inc.*, 490 F.3d 946, 953 (Fed. Cir. 2007) (holding "control means for automatically operating said valving" limitation was indefinite, as the specification merely disclosed a diagram with a box labeled "control" and a stated the invention "may be controlled automatically by known differential pressure, valving and control equipment"). Similarly, the specification does not disclose sufficient structure if it simply describes the outcome of the claimed function and does not disclose a computer programmed to execute a particular algorithm. *Aristocrat Techs.*, 521 F.3d at 1334–35.

Whether a computer or another structure implements the function of a means-plus-function limitation, the definiteness inquiry focuses on what one of ordinary skill in the art would understand the patent discloses. *AllVoice*, 504 F.3d at 1240. Courts consider an inexhaustive list of factors to determine the level of ordinary skill in the art. *Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007). These factors include: (1) the inventor's educational level; (2) the types of problems encountered in the art; (3) prior art solutions to those problems; (4) rapid pace of innovation; (5) technological sophistication; and (6) educational level of active workers in the field. *Id.* Regardless of the level of skill of an ordinarily skilled artisan, "[t]he inquiry is whether one of skill in the art would understand the specification itself to disclose a structure, not simply whether that person would be capable of implementing a structure." *Aristocrat Techs.*, 521 F.3d at 1337 (quoting *Biomedino*, 490 F.3d at 953).

Microsoft has shown by clear and convincing evidence that the term "recognition means for detection of an actual property protocol of the communications protocol" is indefinite. The specification states the set-up program module "PMPA" detects or determines the actual protocol properties. '390 Patent, col. 2:66–col. 3:14, col. 5:42–48. The specification depicts the "PMPA" as resident in a memory means, examples of which are fixed disks or RAM modules. *Id.* at Figs. 1, 2, 3; *id.* at col. 5:3–8. The control means, which the specification indicates is one or more processors, executes the PMPA program code located in the memory means. *Id.* at col. 5:3–8, col. 6:8–17.

In total, the specification indicates a computer processor executes a PMPA set-up program module code that performs the "detection of an actual property protocol of the communications protocol" function. This broad disclosure of a "set-up program module" executed on a processor, similar to "software" or "appropriate programming," is not sufficient algorithmic structure. *Finisar*,

523 F.3d at 1340–41; *Aristocrat Techs.*, 521 F.3d at 1338. Thus, the term "recognition means for detection of an actual property protocol of the communications protocol" is indefinite and claims 8 and 12 are invalid.

Test Means; Actual Property Protocol; First Protocol Module; Target Protocol Property of a Second Communications Means

These limitations only appear in claims 8 and 12, which are invalid for indefiniteness. Thus, the Court will not address the construction of these limitations.

'844 Patent

An Input Unit for Obtaining the Selected Television Program from the Input Device

Claim 19 contains the term "an input unit for obtaining the selected television program from the input device." The parties dispute whether the term is a means-plus-function term governed by 35 U.S.C. § 112 ¶ 6.

When a claim limitation does not contain the term "means," courts presume 35 U.S.C. § 112 ¶ 6 does not apply. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1369 (Fed. Cir. 2002). The presumption "is a strong one that is not readily overcome." *Lighting World*, 382 F.3d at 1358.

This presumption may be overcome if "the claim term fails to 'recite sufficiently definite structure' or else recites 'function without reciting sufficient structure for performing that function.'" *Id*. (quoting *Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000)). However, a claim term recites sufficient structure to avoid the application of 35 U.S.C. § 112 ¶ 6 if "the claim term is used in common parlance or by persons of skill in the pertinent art to designate structure, even if the term covers a broad class of structures and even if the term identifies the structures by their function." *Lighting World*, 382 F.3d at 1359–60.

Alcatel has not overcome the presumption that the term "input unit" is not a means-plus-function limitation. One of ordinary skill in the art would understand an input/output (I/O) unit

connotes structure and would further understand the subsidiary structure that performs the input function, claimed as "obtaining the selected television program from the input device," likewise connotes structure. The specification discloses an I/O unit as a structure connected to other components, which include the input device, memory, processors, tuner, and video recorder, where these components communicate with other components through the I/O unit. '844 Patent, Fig. 1, col. 4:61–66, col. 5:41–46, col. 10:20–24, col. 13:39–43, col. 13:65–col. 14:2. This disclosure is consistent with extrinsic evidence that indicates an "input unit" connotes structure. IEEE STANDARD DICTIONARY OF ELECTRICAL AND ELECTRONICS TERMS, "input device" 524 (6th ed. 1997) (defining "input device" as "a device used to enter data into a computer system" and listing "input unit" as synonym for "input device"); *MIT*, 462 F.3d at 1355 (relying on technical dictionaries to determine whether the term "circuitry" connotes structure). Thus, the term falls outside the ambit of 35 U.S.C. § 112 ¶ 6.[13]

The Court adopts Microsoft's construction.[14] Thus, "an input unit for obtaining the selected television program from the input device" means "an input unit of the computer that obtains navigational commands from the input device that designate a program selection."

Designation of the Selected Program

Claims 1, 2, and 3 contain the term "designation of the selected program." Microsoft contends the term does not require construction. Alcatel contends the "designation of the selected program" means "selection of the selected program by at least one program characteristic such as title or topic." The parties dispute whether the program designation requires "selection" of the

[13] Alcatel contends that the term "input unit for obtaining the selected television program from the input device" is indefinite and alleges the specification did not disclose any clearly linked structure. As 35 U.S.C. § 112 ¶ 6 does not apply to the term, this is a moot issue.

[14] In its briefs, Alcatel only disputes whether an "input unit for obtaining the selected television program from the input device" is a means-plus-function limitation.

selected program "by at least one program characteristic."

Selection

The ordinary meaning of "designation" is akin to "indication," "mark," " name," or "title." Claim 1 employs the term consistent with its ordinary meaning. Claim 1 covers a method, performed by a computer, "of obtaining from a user a selected program," that requires the step of "obtaining from a user a designation of the selected program." '844 Patent, col. 14:15–34. The claim does not require obtaining from a user the user's actual selection, but broadly covers obtaining from a user information that indicates the selected program.

The specification does not depart from the ordinary meaning of "designation." While the specification discloses embodiments where the user designates a program or program name, the specification is silent as to the designation that results. *See id.* at col. 3:57–59 ("The user selects a television program to view or record by designating a program name in the displayed program list via the input device."); *id.* at col. 5:37–39 ("When the user requests to record the selected program, the selection program designates the program to be recorded.") (internal references to Fig. 1 omitted); *id.* at col. 6:15–19 ("Each time the user designates one of the program names, the selection program increments a channel counter for the channel entry associated with the designated program name.") (internal references to Fig. 1 omitted).

In total, the intrinsic evidence does not limit a "designation" to a "selection" or depart from the ordinary meaning of "designation." A lay jury will understand the meaning of "designation," and the Court will not construe the term.

At Least One Program Characteristic

Claim 1 does not require the designation of the selected program to be at least one program characteristic. Further, while the specification states the user designates a program or program name,

the specification does not limit the designation that results to a program name or a program characteristic. As the intrinsic evidence does not require the designation to be at least one program characteristic, it would improper to so limit the claims. For the abovementioned reasons, the Court will not construe the term "designation of the selected program." *See O2 Micro*, 521 F.3d at 1362.

Schedule Layout

Claims 1, 2, and 3 contain the term "schedule layout." Microsoft argues "schedule layout" does not require construction. Alcatel contends "schedule layout" means "displayed sequence of television programming." The parties dispute whether the "schedule layout" must be displayed and if the "schedule layout" is a sequence of televison programming.

Displayed

Claim 1 covers a method that comprises, in part, the steps of "providing to a display device, for each of the television programs, the program name and the time of the broadcast for display in a schedule layout which visually associates the program with the time of the broadcast" and "providing to the display device the textual description of the selected program and a graphic description of the selected program for concurrent display with the schedule layout in a separate location so that the textual graphic descriptions does not overlay the displayed schedule layout." '844 Patent, col. 14:16–34.

The claim language provides the display context of the "schedule layout" and the addition of the term "displayed" would be redundant. Further, nothing in the specification or prosecution history requires such a construction. Thus, the construction of "schedule layout" does not require the additional limitation, already included in the claims, that the "schedule layout" is displayed. *See Hyperion Solutions Corp. v. OutlookSoft Corp.*, 422 F. Supp. 2d 760, 772 (E.D. Tex. 2006) (Ward, J.) (rejecting both parties' proposed constructions and noting "[b]edrock principles of claim

construction counsel against a construction that renders additional limitations superfluous") (citing *Merck & Co., Inc. v. Teva Pharma. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005)).

Sequence of Television Programming

The ordinary meaning of "sequence" is similar to the ordinary meaning of "schedule," in that both require a list or array of entries or elements. A sequence, however, requires some order of the elements, usually in reference to an element attribute. A schedule does not require any order amongst entries and is more akin to a list of entries.[15]

Nothing in the '844 Patent redefines a "schedule layout" as a sequence. Claim 1 lists the type of entries within the "schedule layout" but does not specify a relationship between the entries. '844 Patent, col. 14:16–34. Claim 3 requires the "schedule layout" to order entries according to two axises. *Id.* at col. 14:42–48. While the "schedule layout" in claim 3 meets the definition of a sequence, it would be improper to limit a "schedule layout" to a sequence, as claim 1 does not indicate the entries need be in any particular order. *See Liebel-Flarsheim*, 358 F.3d at 910. While the preferred embodiment discloses a "schedule layout" with ordered entries, nothing in the specification or prosecution history indicates the applicants narrowed the term "schedule layout" to only cover a sequence. *E.g.*, '844 Patent, Fig. 2, col. 3:63–67.

Further, the claims provide the "schedule layout" entries such that it is unnecessary to include in the term's construction that the "schedule layout" contains "television programming." *Id.* at col.

[15] Ultimately, there is no real claim-scope dispute between the parties' constructions. A schedule layout that contains television programs as entries is the same as a sequence of television programs, as there is some order, albeit perhaps an indecipherable or random order, of the entries based on entry attributes. The important information in a "schedule," such as a schedule of assets or liabilities, however, is the entry values and not the relationships between entries. By contrast, in a "sequence," information about relationships between element attributes is at least as important as the element values. For example, in mathematical sequences, the relationship between an element's value and the element's number in the sequence is often of greater importance than the listing of the elements values. Thus, for juror ease, the Court will address the parties constructions to determine whether the claimed "schedule layout" is more schedule-like or sequence-like, though in reality the constructions have essentially the same claim scope.

14:16–34 (claiming a method that comprises "providing to a display device, for each of the television programs, the program name and the time of broadcast for display in a schedule layout which visually associates the program name with the time of broadcast"); *id.* at col. 14:42–48. The specification also separately identifies the entries within the schedule layout. *Id.* at Fig. 2, col. 2:28–31, col. 6:9–27. Thus, it is improper to include "television programming" in the terms' construction.

For the above reasons, a "schedule layout" is not limited to a "displayed sequence of television programming." A lay jury will understand the meaning of "schedule layout." The Court has resolved the parties' claim-scope dispute and will not further define "schedule layout." *See O2 Micro*, 521 F.3d at 1362.

CONCLUSION

For the foregoing reasons, the Court interprets the claim language in this case in the manner set forth above. For ease of reference, the Court's claim interpretations are set forth in a table as Appendix B. The claims with the disputed terms in bold are set forth in Appendix A.

So ORDERED and SIGNED this 27th day of June, 2008.

LEONARD DAVIS
UNITED STATES DISTRICT JUDGE

APPENDIX A

U.S. Pat. No. 5,659,539

19. A method of preprocessing an original digital data stream that represents an audio-visual work to create tag information, the audio-visual work including a sequence of frames, the original digital data stream including a sequence of frame data, each frame data corresponding to a frame in said sequence of frames, the method comprising the steps of:

for each frame in said sequence of frames, performing the steps of
determining boundaries within said original digital data stream for the frame data corresponding to said frame;
generating **tag data** that includes **boundary data that indicates said boundaries of said frame data**; and
storing said tag data separate from said original digital data stream;
wherein a decoder uses one or more state machines to decode said original digital data stream;
wherein said **tag data** includes, for each frame in said sequence of frames, state data that represents a state of said one or more state machines, said state data for a given frame indicating a state that said one or more state machines would be in when said decoder receives the frame data corresponding to said given frame during a normal-speed performance of said audio-visual work.

25. A method for selecting frames for display during a performance at a specified presentation rate of a work represented in a digital video file, wherein the performance is produced by decoding a data stream generated from the digital video file over **a channel having a predetermined data transfer rate**, the method comprising:

selecting for display a first frame represented by frame data in said digital video file, said first frame being associated with a first time;
inspecting a second frame that is represented by frame data in said digital video file, said second frame being associated with a second time;
determining a **bit budget** based on said presentation rate, a time difference between said first time and said second time and said predetermined data transfer rate;
comparing the **bit budget** to the size of the frame data that represents said second frame;
if the size of the frame data exceeds the **bit budget**, then skipping the second frame;
if the size of the frame data is less than the **bit budget**, then selecting the second frame for display; and
wherein said method is performed in real time during the performance at the specified presentation rate of the work represented in the digital video file.

29. A method for selecting frames for display during a performance at a specified presentation rate of a work represented in a digital video file, wherein the performance is produced by decoding a data stream generated from the digital video file over **a channel having a predetermined data transfer rate**, the method comprising:

selecting for display a first frame represented by frame data in said digital video file, said first frame being associated with a first time;
inspecting a second frame that is represented by frame data in said digital video file, said second frame being associated with a second time;
determining a **bit budget** based on said presentation rate, a time difference between said first time and said second time and said predetermined data transfer rate;
comparing the **bit budget** to the size of the frame data that represents said second frame;
if the size of the frame data exceeds the **bit budget**, then skipping the second frame; and
if the size of the frame data is less than the **bit budget**, then selecting the second frame for display;
wherein said method is performed in real time during the performance at the specified presentation rate of the work represented in the digital video file.

39. A method for performing a seek operation during a performance of an audio-visual work, said performance being performed by decoding a digital data stream transmitted to a decoder, the method comprising the steps of:

receiving a seek instruction while transmitting to said decoder data from a first position in a digital representation of said audio-visual work;

in response to said seek instruction, performing the steps of: ceasing to transmit data from said first position;
transmitting data from a second position in said digital representation of said audio-visual work;
generating **prefix data** that indicates a state of one or more state machines;
transmitting said **prefix data** after ceasing to transmit data from said first position and prior to transmitting data from said second position.

U.S. Pat. No. 5,864,682

18. A method of preprocessing an original digital data stream that represents an audio-visual work to create tag information, the audio-visual work including a sequence of frames, the original digital data stream including a sequence of frame data, each frame data corresponding to a frame in said sequence of frames, the method comprising the steps of:

for each frame in said sequence of frames, performing the steps of
determining boundaries within said original digital data stream for the frame data corresponding to said frame;
generating **tag data** that includes **boundary data that indicates said boundaries of said frame data**; and
storing said tag data separate from said original digital data stream.

19. The method of claim 18 further comprising the steps of:

generating a second digital data stream based on said original digital data stream;
when said second digital data stream reflects data at a first location in said original digital data stream, performing the steps of
receiving a skip control signal that indicates a second location in said original digital data stream;
reading said tag data to determine a boundary of a frame that corresponds to said second location;
causing said second digital data stream to reflect data beginning at the boundary of the frame that corresponds to said second location.

20. The method of claim 19 wherein said skip control signal indicates said second location by specifying an amount of time, said second location being the **location of data that would be reflected in said second digital data stream after said amount of time had elapsed during a normal speed, sequential playback operation**.

22. A method for selecting frames for display during a performance at a specified presentation rate of a work represented in a digital video file, wherein the performance is produced by decoding a data stream generated from the digital video file over **a channel having a predetermined data transfer rate**, the method comprising:

selecting for display a first frame represented by frame data in said digital video file, said first frame being associated with a first time;
inspecting a second frame that is represented by frame data in said digital video file, said second frame being associated with a second time;
determining a **bit budget** based on said presentation rate, a time difference between said first time and said second time and said predetermined data transfer rate;
comparing the **bit budget** to the size of the frame data that represents said second frame;
if the size of the frame data exceeds the **bit budget**, then skipping the second frame; and
if the size of the frame data is less than the **bit budget**, then selecting the second frame for display.

U.S. Pat. No. 6,112,226

1. A digital video delivery system comprising:

an encoder configured to receive visual information;
said encoder being configured to generate content data that represents the visual information in a digital video format; and
said **encoder being configured to generate control data in parallel with said content data**, said control data indicating **locations of frames contained in said content data**.

8. A method for providing non-sequential access to visual information that is being digitally encoded in a digital data stream, wherein said digital data stream includes a sequence of video frame data, each video frame data in said sequence of video frame data corresponding to a video frame of said visual information, the method comprising the computer-implemented steps of:

generating said digital data stream with an encoder;
causing said encoder to generate **tag data** that indicates **locations of said video frame data within said digital data stream**;
storing said digital data stream at a location from which the digital data stream is delivered to a client; and
storing said **tag data** at a location from which the **tag data** may be used to provide the client non-sequential access to the digital data stream.

14. A computer-readable medium having stored thereon sequences of instructions for providing non-sequential access to visual information that is being digitally encoded in a digital data stream, wherein said digital data stream includes a sequence of video frame data, each video frame data in said sequence of video frame data corresponding to a video frame of said visual information, the sequences of instructions including instructions for performing the steps of:

while said digital data stream is being generated by an encoder, causing said encoder to generate **tag data** that indicates **locations of said video frame data within said digital data stream**;
storing said digital data stream at a location from which the digital data stream is delivered to a client; and
storing said **tag data** at a location from which the tag data may be used to provide the client non-sequential access to the digital data stream.

U.S. Pat. No. 6,823,390

8. A set-up module for a first communication means, which comprises a **first protocol module** for communication via a communication protocol,

said **first protocol module** and said set-up module respectively containing program code able to be executed by a control means of the first communication means,
the set-up module comprising **recognition means for detection of an actual protocol property** of the communications protocol,
said set-up module comprising transmission means for transmission of the first **actual protocol property** to a **test means**, and
said set-up module possessing receiving means for receiving an instruction from said **test means** to install a second protocol module dependent upon the result of a comparison performed by the **test means** of the first **actual protocol property** and a **target protocol property of a second communications means**, wherein the second protocol module comprises program code able to be executed by the control means of the first communication means for data communication in a manner dependent on the target protocol property of the second communication means, wherein, subsequent to the installation of the second protocol module, the first communication means communicates data to the second communication means without passing the data through the **test means**.

12. A computer-readable memory medium comprising at least a set-up module for a first communication means and a **first protocol module** for communication via a communication protocol,

said at least one **first protocol module** and said set-up module respectively containing a program code able to be executed by a control means of the first communication means, said computer-readable memory medium further comprising a test module containing program code able to be executed by a **test means** for setting up data communication with the first communication means, and said computer-readable memory medium further comprising a set-up module for a second communication means for setting up data communication with the first communication means, said set-up module containing a second protocol module with program code able to be executed by a control means of the second communication means, wherein:
said set-up module for said first communication means comprises **recognition means for detection of an actual protocol property** of the **first protocol module**; transmission means for transmission of the first **actual protocol property** to a **test means**; and receiving means for receiving an instruction, in which the first communication means is

instructed to execute a subsequent action in a manner dependent on the at least one first **actual protocol property**;
said test module containing program code able to be executed by a control means of the **test means**, said test module comprising receiving means for receiving a target protocol property of the second protocol module of the second communication means, said receiving means being adapted to receive a first **actual protocol property** of the **first protocol module**, comparison means for comparison of the first **actual protocol property** with the target protocol property and transmission means for the transmission of an instruction to the first communication means to install a third protocol module dependent upon the result of a comparison performed by the **test means** of the first **actual protocol property** and a target protocol property as determined by the comparison means, wherein, subsequent to the installation of the third protocol module, the first communication means communicates data to the second communication means without passing the data through the **test means**; and
said set-up module for said second communication means comprises transmission means for the transmission of the target protocol property of the second protocol module to the **test means**.

U.S. Pat. No. 5,731,844

1. A method, performed by a computer, of obtaining from a user a selected program from among a plurality of television programs, the method comprising the steps of:

(a) storing, for each of the television programs, a program name, a time of broadcast, and textual and graphic descriptions of the television program;
(b) providing to a display device, for each of the television programs, the program name and the time of broadcast for display in a **schedule layout** which visually associates the program name with the time of broadcast;
(c) obtaining from the user a **designation of the selected program**; and
(d) providing to the display device the textual description of the selected program and a graphic description of the selected program for concurrent display with the **schedule layout** in a separate location so that the textual and graphic descriptions do not overlay the displayed **schedule layout**.

2. The method of claim 1 wherein step (a) further comprises storing a channel indicator associated with the program name and the time of broadcast for each of the television programs, and step (b) comprises providing the channel indicator to the display device for display in the **schedule layout** so as to be visually associated with the program name and the time of broadcast.

3. The method of claim 2 wherein the **schedule layout** comprises a grid containing the program name of each of the television programs and having a channel axis which references the channel indicator associated with each of the television programs and a time axis which references the time of broadcast of each associated with the television programs.

19. A computer system for selecting and displaying a television program from among a plurality of television programs, comprising:

a display;
an input device through which the selected television program is selected from a user; and
a computer coupled to the display and to the input device, comprising
an **input unit for obtaining the selected television program from the input device**,
a memory for storing a program name and a time of broadcast of each of the plurality of television programs, and
a processor four obtaining the selected television program from the input unit, for reading the program name and time of broadcast for each of the plurality of television programs from the memory, for displaying on the display the read program names and times of broadcast, and, when the selected television program is currently being broadcast, for displaying the selected television program concurrently with the program name and time of broadcast of the plurality of television programs.

APPENDIX B

Ref. Nos.	Term or Phrase to be Construed (Claims)	Court's Construction
1	a channel having a predetermined data transfer rate ('539 Patent, claims 25, 29; '682 Patent claim 22)	*No construction required*
2	bit budget ('539 Patent, claims 25, 29; '682 Patent, claim 22)	amount of data that can be transferred over the channel for performance of the work during a period of time
3	boundary data that indicates said boundaries of said frame data ('539 Patent, claim 19; '682 Patent, claim 18)	*No construction required*
4	communication channel ('226 Patent, claim 2)	*No construction required*
5	determining boundaries within said original digital data stream for the frame data corresponding to said frame ('539 Patent, claim 19; '682 Patent, claim 18)	*No construction required*
6	encoder being configured to generate control data in parallel with said content data ('226 Patent, claim 1)	*No construction required*
7	locations of frames contained in said content data ('226 Patent, claim 1)	*No construction required*
8	locations of said video frame data within said digital data stream ('226 Patent, claims 8, 14)	*No construction required*
9	prefix data ('539 Patent, claim 39)	*No construction required*
10	storing said tag data separate from said original digital data stream ('539 Patent, claim 19; '682 Patent, claim 18)	*No construction required*
11	tag data ('539 Patent, claim 19; '682 Patent, claim 18; '226 Patent, claims 8, 14)	information about the frame data including a location, a corresponding time and a frame type

Ref. Nos.	Term or Phrase to be Construed (Claims)	Court's Construction
12	the location of data that would be reflected in said second digital data stream after said amount of time had elapsed during a normal speed, sequential playback operation ('682 Patent, claim 20)	the location of data that would include information from said second digital data stream after said amount of time had elapsed during a normal speed, sequential playback operation
13	recognition means for detection of an actual protocol property of the communications protocol ('390 Patent, claims 8, 12)	Function: detection of an actual protocol property of the communications protocol Structure: indefinite
14	actual protocol property ('390 Patent, claims 8, 12)	*Construction moot in light of "recognition means for detection of an actual protocol property of the communications protocol"*
15	first protocol module ('390 Patent, claims 8, 12)	*Construction moot in light of "recognition means for detection of an actual protocol property of the communications protocol"*
16	target protocol property of a second communications means ('390 Patent, claim 8)	*Construction moot in light of "recognition means for detection of an actual protocol property of the communications protocol"*
17	test means ('390 Patent, claims 8, 12)	*Construction moot in light of "recognition means for detection of an actual protocol property of the communications protocol"*
18	an input unit for obtaining the selected television program from the input device ('844 Patent, claim 19)	an input unit of the computer that obtains navigational commands from the input device that designate a program selection
19	designation of the selected program ('844 Patent, claim 1)	*No construction required*
20	schedule layout ('844 Patent, claims 1, 2, 3)	*No construction required*